

Exhibit 3

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY

VIDEOTAPED DEPOSITION OF
LAMBERTUS HESSELINK, Ph.D.
San Francisco, California
Tuesday, September 26, 2017
Volume I

Reported by:
MARY J. GOFF
CSR No. 13427
Job No. 2714543

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1 [REDACTED] [REDACTED]

2 [REDACTED] [REDACTED]

3 [REDACTED] [REDACTED]

4 [REDACTED] [REDACTED]

5 [REDACTED] 02:48:05

6 MR. NEUKOM: Objection to form. 02:48:11

7 A I have -- 02:48:12

8 MR. NEUKOM: Objection to form. 02:48:12

9 A -- I have no knowledge of that. 02:48:13

10 Q (BY MR. JACOBS) The -- when you said it's 02:48:15

11 an incredible -- I think your words were it's an 02:48:17

12 extraordinary challenge or an incredible challenge. 02:48:18

13 What -- what exactly did you mean by that? What's 02:48:21

14 so hard about this problem? 02:48:25

15 A In some form the way I think about it is 02:48:28

16 you kind of have to figure out what goes on in the 02:48:31

17 human mind. You have got sensory information. 02:48:34

18 You have learned -- I mean, a toddler 02:48:38

19 cannot drive a car. So you have learned how you 02:48:41

20 actually maneuver a vehicle after you have taken 02:48:44

21 lessons in an environment where you may have some 02:48:48

22 inclination as to what happens, but you never really 02:48:51

23 know what happens. 02:48:55

24 It could be an emergency vehicle going in 02:48:56

25 your direction while you're going in one direction 02:48:58

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1 north. They come south and they're passing another 02:49:01
2 car. 02:49:01

3 02:49:03
4 THE COURT REPORTER: What's -- Going in 02:49:03
 one direction? Repeat. 02:49:03

5 02:49:04
6 02:49:06
7 Q (BY MR. JACOBS) It could be an emergency 02:49:06
 vehicle going in your direction -- 02:49:08

8 02:49:11
9 02:49:11
10 Q -- so you're going -- 02:49:11

11 A -- yeah, and you're going in the south 02:49:12
 direction in the same lane. 02:49:14

12 02:49:15
13 There are a number of scenarios that you 02:49:15
 cannot predict. Yet, a human is capable somehow of 02:49:19
 dealing with that. 02:49:24

14 02:49:26
15 And as far as I know, nobody knows how the 02:49:26
 brain works precisely. There's lots of money and 02:49:30
 time spent into it. And nobody really knows what 02:49:32
 happens when I get a signature, either orally, 02:49:36
 acoustics, or an image. And maybe there is an 02:49:40
 acceleration, a deceleration. There are other 02:49:47
 inputs into my system. 02:49:49

16 02:49:51
17 And I make certain decisions. All of that 02:49:51
 in some form or another. And on top of it you have 02:49:54
 to essentially predict: What is the other person 02:49:57
 going to do? So assume that you have a -- 02:50:01

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1	THE COURT REPORTER: Please slow down.	02:50:01
2	A And on top of that you would have to	02:50:02
3	predict what the other is going to do.	02:50:03
4	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
14	Q So you said -- you said "Uber," but you	02:50:37
15	mean Google, right?	02:50:38
16	A Oh, sorry. Google, yeah. That was a	02:50:40
17	mistake. And so -- so what -- what you see there	02:50:43
18	is -- is that the software is only as good as the	02:50:45
19	algorithms that the developers put into it.	02:50:50
20	And if the developers don't understand	02:50:52
21	human behavior of all of the test cases, it's very	02:50:55
22	difficult to build a system that incorporates that	02:50:58
23	knowledge.	02:51:01
24	And the only way you can do that, which is	02:51:01
25	the way I think that Waymo is doing it, is you just	02:51:04

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1 drive these vehicles millions of miles so that you 02:51:06
2 have lots of incidents that you have to work on to 02:51:09
3 fix them. And even then you will not be perfect. 02:51:12
4 Q The -- what you were just describing for 02:51:17
5 Google or Waymo would also apply to Uber, correct, 02:51:19
6 in terms of when -- when Uber can actually deploy 02:51:22
7 fully autonomous vehicles? 02:51:26
8 MR. NEUKOM: Objection to form. 02:51:28
9 A Yes. You would definitely have to test 02:51:28
10 out your vehicles. 02:51:34
11 Q (BY MR. JACOBS) And in the case of Uber or 02:51:36
12 perhaps for Waymo, the idea that we might use a 02:51:38
13 ride-hailing service that would bring to us a fully 02:51:41
14 autonomous vehicle without a safety driver, what 02:51:44
15 does that challenge look like to you in terms of 02:51:47
16 what's ahead for those -- for those companies trying 02:51:50
17 to develop that capability? 02:51:53
18 MR. NEUKOM: Objection to form. 02:51:55
19 A You're asking me that now independent of 02:51:58
20 what I have done in this document, I presume, right? 02:52:01
21 Q (BY MR. JACOBS) I don't think you asked 02:52:03
22 that question in your document, but you -- this is 02:52:05
23 about -- this document is about the use of LiDAR and 02:52:07
24 autonomous vehicles, so that's why I'm asking you 02:52:10
25 these questions. 02:52:11

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1 I, MARY J. GOFF, CSR No. 13427, Certified
2 Shorthand Reporter of the State of California,
3 certify;

4 That the foregoing proceedings were taken
5 before me at the time and place herein set forth, at
6 which time the witness declared under penalty of
7 perjury; that the testimony of the witness and all
8 objections made at the time of the examination were
9 recorded stenographically by me and were thereafter
10 transcribed under my direction and supervision; that
11 the foregoing is a full, true, and correct
transcript of my shorthand notes so taken and of the
testimony so given;

12 That before completion of the deposition,
13 review of the transcript () was (XX) was not
14 requested: () that the witness has failed or
refused to approve the transcript.

15 I further certify that I am not financially
16 interested in the action, and I am not a relative or
17 employee of any attorney of the parties, nor of any
of the parties.

18 I declare under penalty of perjury under the
19 laws of California that the foregoing is true and
20 correct, dated this 27th day of September 2017.

21

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23



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MARY J. GOFF, CSR No. 13427